STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

August 11, 2006

Howard Carter
Deputy Director of Public Works
City of Saco
68 Front Street
Saco, ME 04072

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0101117
Maine Waste Discharge License (WDL) Application #W002599-5L-F-R
Final Permit/License

Dear Mr. Carter:

Enclosed please find a copy of your **final** combination MEPDES permit/Maine WDL which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding this matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Stuart Rose, DEP/SMRO
John True, DEP/CMRO
Sandy Lao, USEPA

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF SACO)	MAINE POLLUTANT DISCHARGE
SACO, YORK COUNTY, MAINE)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS)	AND
ME0101117)	WASTE DISCHARGE LICENSE
W002599-5L-F-R **APPROVAL**)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et seq., and Maine law, 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the CITY OF SACO (City hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The City has filed a timely and complete application with the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0101117/Waste Discharge License (WDL) #W002599-5L-E-R (permit hereinafter) which was issued by the Department on July 5, 2001, and is due to expire on July 5, 2006. The 7/5/01 permit approved the monthly average discharge of up to 4.2 million gallons per day (MGD) of secondary treated waste water from the City's municipal waste water treatment facility to the tidal portion of the Saco River, Class SC, and approved the discharge of untreated sanitary/stormwater via seven combined sewer overflow (CSO) points to various receiving waters in Saco, Maine. See Special Condition K of this permit for a list of the CSO outfalls and the receiving waters to which they discharge.

MODIFICATIONS REQUESTED

1. The permittee has requested the Department authorize the discharge of disinfected primary treated waste waters from a swirl separator to the Saco River during wet weather events.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the 7/5/01 permit and establishing new requirements as follows:

1. Authorizing the use of a swirl separator to provide primary treatment and disinfection of wet weather flows that exceed the capacity of the secondary treatment components of the waste water treatment facility.

2. Eliminating the monthly average water quality based mass and concentration limits for arsenic.

3. Establishing daily maximum water quality based mass and concentration limits for copper and eliminating the monthly average water quality based limits for copper.

PERMIT SUMMARY (cont'd)

4. Establishing monthly average water quality based mass and concentration limits for ammonia and eliminating the daily maximum water quality based limits for ammonia.

5. Requiring the permittee to update the Operations & Maintenance (O&M) plan and the Wet Weather Flow Management Plan for the waste water treatment facility on or before June 1, 2007.

CONCLUSIONS

BASED on the findings in the findings of the Fact Sheet dated May 23, 2006, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharges (including the CSOs) will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the CITY OF SACO to discharge primary and secondary treated waste waters to the Saco River, Class SC, and discharge untreated combined sanitary/storm water from seven CSO outfalls to various receiving waters in Saco, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *"Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits,"* revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 14th DAY OF August, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application March 31, 2006.

Date of application acceptance April 3, 2006.

FILED
AUG 15 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This order prepared by Gregg Wood, Bureau of Land and Water Quality.

W25995LF 8/11/06

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – OUTFALL #001A

1. The permittee is authorized to discharge secondary treated waste waters from **Outfall #001A** (primary outfall – middle of Saco River, secondary outfall – east bank of Saco River) to the Saco River. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD *[50050]*	4.2 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
BOD_5 *[00310]*	1,050 #/Day *[26]*	1,576 #/Day *[26]*	Report #/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	3/Week *[03/07]*	Composite *[24]*
BOD_5 % Removal (1) *[81010]*	---	---	---	85 % *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
TSS *[00530]*	1,050 #/Day *[26]*	1,576 #/Day *[26]*	Report #/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	3/Week *[03/07]*	Composite *[24]*
TSS % Removal (1) *[81011]*	---	---	---	85 % *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	1/Day *[01/01]*	Grab *[GR]*
Fecal Coliform Bacteria (2) *(Year round)* *[31616]*	---	---	---	15/100 ml (3) *[13]*	---	50/100 ml *[13]*	3/Week *[03/07]*	Grab *[GR]*
Total Residual Chlorine (4) *[50060]*	---	---	---	---	---	0.091 mg/L *[19]*	1/Day *[12/01]*	Grab *[GR]*
pH *[00400]*	---	---	---	---	---	6.0-9.0 S.U. *[12]*	1/Day *[01/01]*	Grab *[GR]*

The italicized numeric values bracketed in the table above and the tables on the following pages are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMR's).

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SURVEILLANCE LEVEL TESTING **– Beginning upon permit issuance and lasting through 12 months prior to permit expiration.**

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(5) **Acute – NOEL** *Mysidopsis bahia* [TDM3E] *(Mysid Shrimp)*	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Chronic – NOEL *Arbacia punctulata* [TBH3A] *(Sea urchin)*	---	---	---	5.7 % [23]	2/Year [02/YR]	Composite [24]
Analytical chemistry(6) [51168]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]
Ammonia (as N) [61574]	469 #/Day [26]	---	20 mg/L [19]	---	1/Quarter [01/90]	Composite [24]
Copper (Total) [01042]	---	1.1 #/Day [26]	---	48 ug/L [28]	1/Year [01YR]	Composite [24]

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SCREENING LEVEL TESTING **- Beginning 12 months prior to and lasting through permit expiration and every five years thereafter.**

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[5]						
Acute – NOEL						
Mysidopsis bahia [TDM3E] *(Mysid Shrimp)*	---	---	---	Report % [23]	1/Quarter [01/90]	Composite [24]
Chronic – NOEL						
Arbacia punctulata [TBH3A] *(Sea urchin)*	---	---	---	5.7 % [23]	1/Quarter [01/90]	Composite [24]
Analytical chemistry[6] [51168]	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/Grab [24]
Priority pollutant[7] [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]
Ammonia (as N) [61574]	469 #/Day [26]	---	20 mg/L [19]	---	1/Quarter [01/90]	Composite [24]
Copper (Total) [01042]	---	1.1 #/Day [26]	---	48 ug/L [28]	1/Year [01/YR]	Composite [24]

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. The permittee is authorized to discharge **primary treated and disinfected waste waters** from **OUTFALL 001B** Such discharges may only occur in response to wet weather events when the flow rate through secondary treatment exceeds a peak hourly flow rate of 5,556 gpm (8.0 MGD) or in accordance with the most current approved Wet Weather Flow Management Plan and shall be limited and monitored as specified below:

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average As specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow, MGD *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
Overflow Use, Occurrences(8) *[74062]*	---	---	Report (# of days) *[93]*	---	1/Discharge Day(9) *[01/DS]*	Record Total *[RT]*
BOD *[00310]*	---	---	---	Report (mg/L) *[19]*	1/Discharge Day(9) *[01/DS]*	Composite *[CP]*
BOD5 % Removal *[81010]*	Report (%) *[23]*	---	---	---	1/Discharge Day(9) *[01/DS]*	Calculate *[24]*
TSS *[00530]*	---	---	---	Report (mg/L) *[19]*	1/Discharge Day(9) *[01/DS]*	Composite *[CP]*
TSS % Removal *[81011]*	Report (%) *[23]*	---	---	---	1/Discharge Day(9) *[01/DS]*	Calculate *[24]*
Fecal coliform bacteria (2,10) *[31633]* *(Year round)*	---	---	---	200/100 ml *[13]*	1/Discharge Day(9) *[01/DS]*	Grab *[GR]*
Total Residual Chlorine *[50060]* (4,10)	---	---	---	1.0 mg/L *[19]*	1/Discharge Day(9) *[01/DS]*	Grab *[GR]*
pH(10) *[00400]*	---	---	---	Report (SU) *[19]*	1/Discharge Day(9) *[01/DS]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Sampling Locations:

Influent sampling for BOD_5 and TSS shall be conducted;

a. Storm King® Swirl (primary treatment only) – At the diversion structure.

b. Biological (secondary) treatment – At the headworks for flows receiving secondary treatment.

Effluent sampling for applicable parameters shall be conducted;

a. Storm King® Swirl (primary treatment only) – After dedicated primary dechlorination structure.

b. Biological (secondary) treatment – After dedicated secondary dechlorination structure.

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling –Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

1. **Percent removal** – For secondary treated waste waters, the facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility shall report "*NODI-9*" on the monthly Discharge Monitoring Report.

2. **Fecal coliform bacteria** - Limits and monitoring requirements are in effect on a year-round basis.

3. **Fecal coliform bacteria** – The monthly average limitation is a geometric mean limitation and values shall be calculated and reported as such.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

4. **Total residual chlorine (TRC)** – TRC limitations and monitoring requirements are applicable anytime of year in which elemental chlorine or chlorine based compounds are utilized as disinfectants. TRC shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The EPA approved methods are found in Standard Methods for the Examination of Water and Waste Water, (most current approved edition), Method 4500-CL-E and Method 4500-CL-G or U.S.E.P.A. Manual of Methods of Analysis of Water and Wastes.

5. **Whole Effluent Toxicity (WET) Testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic water quality thresholds of 14% and 5.7%, respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

   a. **Surveillance level testing** - Beginning upon permit issuance and last through 12 months prior to permit expiration, the permittee shall conduct surveillance level WET testing. Acute tests shall be conducted on the mysid shrimp (Mysidopsis bahia) at a frequency of 1/Year and chronic tests shall be conducted on the sea urchin (Arbacia punctulata) at a frequency of 2/Year with at least six (6) months between tests. Tests are to be conducted in a different calendar quarter of each year such that tests are conducted in all four calendar quarters in the first four years of the term of this permit.

   b. **Screening level testing** - Beginning 12 months prior to and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level WET testing at a minimum frequency of once per calendar quarter (1/Quarter) for four consecutive calendar quarters. Acute tests shall be conducted on the mysid shrimp (Mysidopsis bahia) and chronic tests shall be conducted on the sea urchin (Arbacia punctulata).

   The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment A of this permit each time a WET test is performed. WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the laboratory reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 14% and 5.7%, respectively.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals.

a. U.S. Environmental Protection Agency. 2002. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5 th ed. EPA 821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the acute method manual)

b. U.S. Environmental Protection Agency. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, 3rd ed. EPA 821-R-02-014. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the marine chronic method manual)

6. **Analytical chemistry** – Refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine.

   a. **Surveillance level testing** – Beginning upon permit issuance and lasting through 12 months prior to permit expiration, the permittee shall conduct analytical chemistry testing at a minimum frequency of once per year (1/Year). Tests are to be conducted in a different calendar quarter of each year such that tests are conducted in all four calendar quarters in the first four years of the term of this permit.

   b. **Screening level testing** – Beginning 12 months prior to and lasting through permit expiration and every five years thereafter, the permittee shall conduct analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter) for four consecutive calendar quarters.

7. **Priority pollutant testing** – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV).

   a. **Screening level testing** - Beginning 12 months prior to permit expiration and lasting through permit expiration, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year). It is noted Department rule Chapter 530 does not establish routine surveillance level priority pollutant testing.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Analytical chemistry and priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable and shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment A of this permit for a list of the Department's reporting limits.

Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the laboratory reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

All mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

8. **Overflow occurrence** - An overflow occurrence is defined as the period of time between initiation of flow from the primary bypass and ceasing discharge from the primary bypass. Overflow occurrences are reported in discharge days.

   Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for BOD_5 and total suspended solids shall be collected per discharge day and shall be flow proportioned from each intermittent overflow during that 24-hour period. Only one grab sample for E. coli bacteria (or fecal bacteria) and total residual chlorine is required to be collected per discharge day.

   For overflow occurrences exceeding one day in duration, sampling shall be performed each day of the event according to the measurement frequency specified. For example, if an overflow occurs for all or part of three discharge days, the permittee shall take three

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

composite samples for BOD_5 and TSS, initiating samples at the start of the overflow and each subsequent discharge day thereafter and terminating samples at the end of the discharge day or the end of the overflow occurrence. Samples shall be flow proportioned.

9. **Discharge Day** - A discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

10. **Grab Samples** - *E. coli* bacteria , total residual chlorine and pH are not required to be collected when Outfall #001B is active for a single continuous discharge event lasting less than 60 minutes or during intermittent discharge events over a course of a 24-hour period lasting less than a total of 120 minutes. Grab sampling is only required during normal business hours which are Monday – Thursday, 7:00 AM – 3:30 PM and Friday 6:30 AM -12:30 PM (not including holidays).

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usage's designated by the classification of the receiving waters.

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usage's designated by the classification of the receiving waters.

3. The discharge shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. DISINFECTION

Disinfection shall be used to reduce the concentration of bacteria to or below the level specified in the Special Condition A, "*Effluent Limitations and Monitoring Requirements*" section of this permit. If chlorination is used as the means of disinfection, an approved chlorine detention must be utilized. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The final effluent concentration of total residual chlorine, prior to dechlorination if present, must at all times be maintained at a concentration greater than test method detection limits in order to provide effective reduction of bacteria to levels below those specified in Special Condition A of this permit.

SPECIAL CONDITIONS

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a **Grade IV** certificate [or Maine Professional Engineer (PE) certificate] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following.

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system.

3. For the purposes of this section, adequate notice shall include information on:

   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and

   (b) any anticipated impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

G. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge in accordance with the terms and conditions of this permit and only from outfalls specified in this permit. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B.5 (*Bypass*) of this permit.

SPECIAL CONDITIONS

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow and maximize the volume of waste water receiving secondary treatment under all operating conditions. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

On or before June 1, 2007, *[PCS Code 06799],* the permittee shall submit to the Department for review, an updated Wet Weather Flow Management Plan.

The permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

I. OPERATION & MAINTENANCE (O&M) PLAN

The permittee shall maintain a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and other regulattory personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

On or before June 1, 2007, *[PCS Code 09699],* the permittee shall submit to the Department for review and comment, an updated O&M Plan.

SPECIAL CONDITIONS

J. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to treat **7,000 gallons per day** of septage in its waste water treatment facility subject to the following terms and conditions:

1) This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.

2) At no time shall addition of septage cause or contribute to effluent quality violations. If such conditions do exist, receipt of septage shall be suspended until effluent quality can be maintained.

3) The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the waste treatment influent and test results.

4) Addition of septage shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment facility becomes overloaded, receipt of septage shall be reduced or terminated in order to eliminate the overload condition.

5) Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.

6) Holding tank waste water shall not be recorded as septage and should be reported in the treatment facility's influent flow.

7) During wet weather events, septage may be received into a septage holding facility but shall not be added to the treatment process or solids handling facilities.

SPECIAL CONDITIONS

K. EFFLUENT LIMITATIONS AND CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSO'S)

Pursuant to Chapter 570 of Department Rules, *Combined Sewer Overflow Abatement,* the permittee is authorized to discharge from the following locations of combined sewer overflows (CSO's) (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

1. CSO Locations:

Outfall #	Location	Receiving Water & Class	
002	Elm Street	Saco River	Class B
003	Main Street	Saco River	Class B
004	Front Street	Saco River	Class SC
005	Hobson Lane	Tappans Brook	Class B
006	Tappan Valley & Hall Ave.	Saco River	Class SC
007	Water Street	Saco River	Class B
008	Bear Brook Pump Station	Bear Brook	Class B

2. Prohibited Discharges

   a) The discharge of dry weather flows is prohibited. All such discharges shall be reported to the Department in accordance with Standard Condition D (1) of this permit.

   b) No discharge shall occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

   c) No discharges shall occur at flow rates below the applicable design capacities of the wastewater treatment facility, pumping stations or sewerage system.

3. Narrative Effluent Limitations

   a) The effluent shall not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.

   b) The effluent shall not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.

   c) The discharge shall not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's)(cont'd)

d) Notwithstanding specific conditions of this permit, the effluent by itself or in combination with other discharges shall not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

4. CSO Long Term Control Plan

The permittee shall implement CSO control projects in accordance with an approved the CSO Master Plan entitled *Combined Sewer Overflow Master Abatement Plan* to the Department in October of 1995 and subsequently updated in April of 2001. Key milestones approved in most recent abatement schedule or agreed to by the permittee and Department that the permittee is required to comply with are:

On or before December 31, 2006, ***(PCS Code 04599)*** the permittee shall substantially complete construction of the Storm King® Swirl Separator.

On or before January 1, 2011, ***(PCS Code 06699)*** the permittee shall submit to the Department for review and comment, a performance evaluation of the waste water treatment facility with the focal point being treatment of wet weather flows.

To modify the dates and or projects specified above, the permittee must file an application with the Department to formally modify this permit. The remaining work items identified in the abatement schedule may be amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

5. Nine Minimum Controls (NMC) (see Section 5 Chapter 570 of Department Rules)
The permittee shall implement and follow the Nine Minimum Control documentation as approved by EPA on May 29, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual CSO Progress Report (see below).

6. CSO Compliance Monitoring Program (see Section 6 Chapter 570 of Department Rules)
The permittee shall conduct flow monitoring according to an approved Compliance Monitoring Program on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations shall be determined by actual flow monitoring, by estimation using a model such as EPA's Storm Water Management Model (SWMM) or by some other estimation technique approved by the Department.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's)(cont'd)

Results shall be submitted annually as part of the annual *CSO Progress Report* (see below), and shall include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring shall also be reported. The results shall be reported on the Department form *"CSO Activity and Volumes"* (Attachment B of this permit) or similar format and submitted to the Department on diskette.

CSO control projects that have been completed shall be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement shall not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

7. Additions of New Wastewater (see Section 8 Chapter 570 of Department Rules)

Chapter 570 Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures shall be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness. Any sewer extensions must be reviewed and approved by the Department prior to their connection to the collection system. A Sewer Extension/Addition Reporting Form (which can be supplied by the Department) shall be completed and submitted to the Department for review by facility inspector, assigned engineer, and CSO coordinator. If the information provided is deemed sufficient, Department staff shall sign off on the project and no further submittals are necessary. If Department staff consider the project significant enough to warrant a detailed review, the Department may request full plans and specifications, or other relevant information, be submitted.

8. Annual CSO Progress Reports (see Section 7 of Chapter 570 of Department Rules)
By March 1 of each year ***(PCS Code 11099)***, the permittee shall submit a *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report shall include, but is not necessarily limited to, the following topics as further described in Chapter 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

The CSO Progress Reports shall be completed on a standard form entitled *"Annual CSO Progress Report"*, furnished by the Department, and submitted in electronic form, if possible, to the Department's CSO Coordinator at the address in Special Condition M, *Monitoring and Reporting*, of this permit.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's)(cont'd)

9. Signs

If not already installed, the permittee shall install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign shall be a minimum of 12" x 18" in size with white lettering against a green background and shall contain the following information:

CITY OF SACO
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

10. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

a. Combined Sewer Overflow - a discharge of excess waste water from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.

b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.

c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.

L. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year ***[PCS code 95799]*** the permittee is required to file a statement with the Department describing the following.

1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require more frequent WET, priority pollutant and or analytical chemistry testing if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

SPECIAL CONDITIONS

M. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department assigned compliance inspector (unless otherwise specified) at the following addresses:

Maine Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
312 Canco Road
Portland, Maine 04103

Electronic version of *"CSO Activity and Volumes"* (Attachment B of this permit) or similar format and *"DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifiers* or *DEP-49-CSO Form For Use With Non-Dedicated CSO Primary Clarifiers"* (Attachment C of this permit) shall be submitted to the Department inspector at the address above and to the CSO Coordinator at the address below:

CSO Coordinator
Department of Environmental Protection
Central Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

N. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time, and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

SPECIAL CONDITIONS

O. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

ATTACHMENT A

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
MARINE WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

By signing this form, I attest that to the best of my knowledge that the information provided is true, accurate, and complete.

Facility Telephone # _____ Date Collected _____ mm/dd/yy Date Tested _____ mm/dd/yy

Chlorinated? _____ Dechlorinated? _____

Results % effluent

	mysid shrimp	sea urchin
A-NOEL		
C-NOEL		

Effluent Limitations

A-NOEL	
C-NOEL	

Data summary

	mysid shrimp	sea urchin
	% survival	% fertilized
QC standard	>90	>80
lab control		
receiving water control		
conc. 1 (%)		
conc. 2 (%)		
conc. 3 (%)		
conc. 4 (%)		
conc. 5 (%)		
conc. 6 (%)		
stat test used		

place * next to values statistically different from controls

Salinity Adjustment

brine	
sea salt	
other	

Reference toxicant mysid shrimp sea urchin

	A-NOEL	C-NOEL
toxicant / date		
limits (mg/L)		
results (mg/L)		

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

Report WET chemistry on DEP Form "WET and Analytical Chemistry Results - Marine Waters, December 2005."

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WET AND ANALYTICAL CHEMISTRY RESULTS
MARINE WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

By signing this form, I attest to the best of my knowledge that the information provided is true, accurate and complete.

Date Collected _____ mm/dd/yy

Date Analyzed _____ mm/dd/yy

Lab ID No. _____

Actual Daily Discharge Flow _____ MGD

Monthly Average Discharge Flow _____ MGD

	Analyte	Report Units	Receiving Water Results	Effluent Results	Reporting Level	Method
Analytes Required for Analytical Chemistry	Ammonia nitrogen	µg/L	*		µg/L	
	Total aluminum	µg/L	*		µg/L	
	Total arsenic	µg/L	*		µg/L	
	Total cadmium	µg/L	*		µg/L	
	Total chromium	µg/L	*		µg/L	
	Total copper	µg/L	*		µg/L	
	Total cyanide	µg/L	*		µg/L	
	Total lead	µg/L	*		µg/L	
	Total nickel	µg/L	*		µg/L	
	Total silver	µg/L	*		µg/L	
	Total zinc	µg/L	*		µg/L	
	Total residual chlorine **	mg/L			mg/L	
Additional Analytes Required For WET Chemistry	Total organic carbon	mg/L			mg/L	
	Total solids	mg/L			mg/L	
	Total suspended solids	mg/L			mg/L	
	Salinity	ppt			ppt	
	pH **	S.U.	*		S.U.	

* The receiving water chemistry tests are optional. However, samples of the receiving water should be preserved and saved for the duration of the WET test. In the event of questions about the receiving water's possible effect on the WET results, chemistry tests should then be conducted.

** WET laboratories may conduct these tests on composite samples as part of their procedures.

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

Facility Name _____ **MEPDES #** _____ **Pipe #** _____ Facility Representative Signature _____
To the best of my knowledge this information is true, accurate and complete.

Licensed Flow (MGD)
Acute dilution factor
Chronic dilution factor
Human health dilution factor
Criteria type: M(arine) or F(resh)

Flow for Day (MGD)[1] _____ **Flow Avg. for Month (MGD)[2]** _____

Date Sample Collected _____ Date Sample Analyzed _____

Laboratory _____ Telephone _____
Address _____
Lab Contact _____ Lab ID # _____

ERROR WARNING ! Essential facility information is missing. Please check required entries in bold above.

			Receiving Water or Ambient	Effluent Concentration (ug/L or as noted)				
	WHOLE EFFLUENT TOXICITY							
		Effluent Limits, %			WET Result, % Do not enter % sign	Reporting Limit Check	Possible Exceedence [7]	
		Acute	Chronic				Acute	Chronic
	Trout - Acute							
	Trout - Chronic							
	Water Flea - Acute							
	Water Flea - Chronic							
	WET CHEMISTRY							
	pH (S.U.)							
	Specific Conductance (umhos)							
	Total Organic Carbon (mg/L)							
	Total Solids (mg/L)							
	Total Suspended Solids (mg/L)							
	Alkalinity (mg/L)							
	Total Hardness (mg/L)							
	Total Magnesium (mg/L)							
	Total Calcium (mg/L)							
	ANALYTICAL CHEMISTRY [3]							
		Reporting Limit	Effluent Limits, ug/L Acute[6]	Chronic[6]	Health[6]		Reporting Limit Check	Possible Exceedence [7] Acute	Chronic	Health
	TOTAL RESIDUAL CHLORINE (mg/L)	0.05								
	AMMONIA	NA								
M	ALUMINUM	NA								
M	ARSENIC	5								
M	CADMIUM	1								
M	CHROMIUM	10								
M	COPPER	3								
M	CYANIDE	5								
M	LEAD	3								
M	NICKEL	5								
M	SILVER	1								
M	ZINC	5								

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

	PRIORITY POLLUTANTS [4]		Effluent Limits					Possible Exceedence [7]		
		Reporting Limit	Acute[6]	Chronic[6]	Health[6]		Reporting Limit Check	Acute	Chronic	Health
M	ANTIMONY	5								
M	BERYLLIUM	2								
M	MERCURY[4]	0.2								
M	SELENIUM	5								
M	THALLIUM	4								
A	2,4,6-TRICHLOROPHENOL	3								
A	2,4-DICHLOROPHENOL	5								
A	2,4-DIMETHYLPHENOL	5								
A	2,4-DINITROPHENOL	45								
A	2-CHLOROPHENOL	5								
A	2-NITROPHENOL	5								
A	4,6 DINITRO-O-CRESOL (2-Methyl-4,6-dinitrophenol)	25								
A	4-NITROPHENOL	20								
A	P-CHLORO-M-CRESOL (3-methyl-4-chlorophenol)+B80	5								
A	PENTACHLOROPHENOL	20								
A	PHENOL	5								
BN	1,2,4-TRICHLOROBENZENE	5								
BN	1,2-(O)DICHLOROBENZENE	5								
BN	1,2-DIPHENYLHYDRAZINE	10								
BN	1,3-(M)DICHLOROBENZENE	5								
BN	1,4-(P)DICHLOROBENZENE	5								
BN	2,4-DINITROTOLUENE	6								
BN	2,6-DINITROTOLUENE	5								
BN	2-CHLORONAPHTHALENE	5								
BN	3,3'-DICHLOROBENZIDINE	16.5								
BN	3,4-BENZO(B)FLUORANTHENE	5								
BN	4-BROMOPHENYLPHENYL ETHER	2								
BN	4-CHLOROPHENYL PHENYL ETHER	5								
BN	ACENAPHTHENE	5								
BN	ACENAPHTHYLENE	5								
BN	ANTHRACENE	5								
BN	BENZIDINE	45								
BN	BENZO(A)ANTHRACENE	8								
BN	BENZO(A)PYRENE	3								
BN	BENZO(G,H,I)PERYLENE	5								
BN	BENZO(K)FLUORANTHENE	3								
BN	BIS(2-CHLOROETHOXY)METHANE	5								
BN	BIS(2-CHLOROETHYL)ETHER	6								
BN	BIS(2-CHLOROISOPROPYL)ETHER	6								
BN	BIS(2-ETHYLHEXYL)PHTHALATE	3								
BN	BUTYLBENZYL PHTHALATE	5								
BN	CHRYSENE	3								
BN	DI-N-BUTYL PHTHALATE	5								
BN	DI-N-OCTYL PHTHALATE	5								
BN	DIBENZO(A,H)ANTHRACENE	5								
BN	DIETHYL PHTHALATE	5								
BN	DIMETHYL PHTHALATE	5								

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

BN	FLUORANTHENE	5									
BN	FLUORENE	5									
BN	HEXACHLOROBENZENE	2									
BN	HEXACHLOROBUTADIENE	1									
BN	HEXACHLOROCYCLOPENTADIENE	10									
BN	HEXACHLOROETHANE	2									
BN	INDENO(1,2,3-CD)PYRENE	5									
BN	ISOPHORONE	5									
BN	N-NITROSODI-N-PROPYLAMINE	10									
BN	N-NITROSODIMETHYLAMINE	1									
BN	N-NITROSODIPHENYLAMINE	5									
BN	NAPHTHALENE	5									
BN	NITROBENZENE	5									
BN	PHENANTHRENE	5									
BN	PYRENE	5									
P	4,4'-DDD	0.05									
P	4,4'-DDE	0.05									
P	4,4'-DDT	0.05									
P	A-BHC	0.2									
P	A-ENDOSULFAN	0.05									
P	ALDRIN	0.15									
P	B-BHC	0.05									
P	B-ENDOSULFAN	0.05									
P	CHLORDANE	0.1									
P	D-BHC	0.05									
P	DIELDRIN	0.05									
P	ENDOSULFAN SULFATE	0.1									
P	ENDRIN	0.05									
P	ENDRIN ALDEHYDE	0.05									
P	G-BHC	0.15									
P	HEPTACHLOR	0.15									
P	HEPTACHLOR EPOXIDE	0.1									
P	PCB-1016	0.3									
P	PCB-1221	0.3									
P	PCB-1232	0.3									
P	PCB-1242	0.3									
P	PCB-1248	0.3									
P	PCB-1254	0.3									
P	PCB-1260	0.2									
P	TOXAPHENE	1									
V	1,1,1-TRICHLOROETHANE	5									
V	1,1,2,2-TETRACHLOROETHANE	7									
V	1,1,2-TRICHLOROETHANE	5									
V	1,1-DICHLOROETHANE	5									
V	1,1-DICHLOROETHYLENE (1,1-dichloroethene)	3									
V	1,2-DICHLOROETHANE	3									
V	1,2-DICHLOROPROPANE	6									
V	1,2-TRANS-DICHLOROETHYLENE (1,2-trans-dichloroethene)	5									
V	1,3-DICHLOROPROPYLENE (1,3-dichloropropene)	5									
V	2-CHLOROETHYLVINYL ETHER	20									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

V	ACROLEIN	NA									
V	ACRYLONITRILE	NA									
V	BENZENE	5									
V	BROMOFORM	5									
V	CARBON TETRACHLORIDE	5									
V	CHLOROBENZENE	6									
V	CHLORODIBROMOMETHANE	3									
V	CHLOROETHANE	5									
V	CHLOROFORM	5									
V	DICHLOROBROMOMETHANE	3									
V	ETHYLBENZENE	10									
V	METHYL BROMIDE (Bromomethane)	5									
V	METHYL CHLORIDE (Chloromethane)	5									
V	METHYLENE CHLORIDE	5									
V	TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene)	5									
V	TOLUENE	5									
V	TRICHLOROETHYLENE (Trichloroethene)	3									
V	VINYL CHLORIDE	5									

Notes:

(1) Flow average for day pertains to WET/PP composite sample day.

(2) Flow average for month is for month in which WET/PP sample was taken.

(3) Analytical chemistry parameters must be done as part of the WET test chemistry.

(4) Priority Pollutants should be reported in micrograms per liter (ug/L).

(5) Mercury is often reported in nanograms per liter (ng/L) by the contract laboratory, so be sure to convert to micrograms per liter on this spreadsheet.

(6) Effluent Limits are calculated based on dilution factor, background allocation (10%) and water quality reserves (15% - to allow for new or changed discharges or non-point sources).

(7) Possible Exceedence determinations are done for a single sample only on a mass basis using the actual pounds discharged. This analysis does not consider watershed wide allocations for fresh water discharges.

ATTACHMENT B

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CSO ACTIVITY AND VOLUMES

MUNICIPALITY OR DISTRICT	MEPDES / NPDES PERMIT NO.
REPORTING YEAR	SIGNED BY:
YEARLY TOTAL PRECIPITATION INCHES	DATE:

CSO EVENT NO.	START DATE OF STORM	PRECIP. DATA		FLOW DATA (GALLONS PER DAY) OR BLOCK ACTIVITY("1")							
		TOTAL INCHES	MAX. HR. INCHES	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	EVENT OVERFLOW GALLONS	EVENT DURATION HRS
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
	TOTALS										

Note 1: Flow data should be listed as gallons per day. Storms lasting more than one day should show total flow for each day.

Note 2: Block activity should be shown as a "1" if the block floated away.

ATTACHMENT C

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: May 23, 2006

PERMIT NUMBER: **ME0101117**
LICENSE NUMBER: **W002599-5L-F-R**

NAME AND ADDRESS OF APPLICANT:

CITY OF SACO
Waste Water Treatment Facility
68 Front Street
Saco, Maine 04072

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Saco Waste Water Treatment Facility
68 Front Street
Saco, Maine 04072

RECEIVING WATER/CLASSIFICATION: **Saco River / Class SC**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Howard Carter**
Deputy Director of Public Works
(207) 282-3564
E-mail: hcarter@sacomaine.org

1. APPLICATION SUMMARY

a. Application: The City has filed a timely and complete application with the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0101117/Waste Discharge License (WDL) #W002599-5L-E-R (permit hereinafter) which was issued by the Department on July 5, 2001, and is due to expire on July 5, 2006. The 7/5/01 permit approved the discharge of up to 4.2 million gallons per day (MGD) of secondary treated waste water from the City's municipal waste water treatment facility to the tidal portion of the Saco River, Class SC, and approved the discharge of untreated sanitary/stormwater via seven combined sewer overflow (CSO) points to various receiving waters in Saco, Maine. See Special Condition K of this permit for a list of the CSO outfalls and the receiving waters to which they discharge. See Attachment A of this Fact Sheet for a location map for the waste water treatment facility and the seven CSO outfalls.

1. APPLICATION SUMMARY (cont'd)

b. Source Description: The facility located on Front Street in Saco treats domestic, industrial, and commercial waste waters. No significant industrial users (contributing more than 10% of the volume of waste water received by the treatment facility) are currently contributing to the waste stream, but there is one industry for which pretreatment of waste waters is required and monitored by the City (General Dynamics Armament and Technical Products- 80,000 gpd of pretreated ground water and industrial process waste water).

The City maintains a combined sewage collection system with seven Combined Sewer Overflow (CSO) points (see Special Condition K of this permitting action). The permittee is scheduled to submit an updated Wet Weather Flow Management Plan to the Department by June 1, 2007 as well as performance evaluation of the waste water treatment facility by January 1, 2011 with the focal point being treatment of wet weather flows . See Special Condition H, *Wet Weather Flow Management Plan* and Special Condition K, *Combined Sewer Overflows*, §4 of this permit. The City has on-site generators at its three largest pump stations; Bear Brook, Windy Point, and Buxton road. It has a smaller generator that is exchangeable at all other smaller pump stations. Along with the smaller transferable generator is a larger generator that is used for the treatment facility and two other larger pump stations; Goosefare and Millbrook.

The previous WDL authorized the City to receive up to 7,000 gallons per day (gpd) of septage. The permittee submitted a Septage Management Plan with their 2006 application for permit renewal. The plan has been reviewed and approved by the Department.

c. Waste Water Treatment: The Saco Wastewater treatment facility is a conventional activated sludge facility built in 1971 to treat an average daily flow of 1.57 MGD. The facility underwent major modifications in 1988 to increase the average daily flow to 4.2 MGD, capable of treating a peak flow of 8.4 MGD. The facility is currently in two separate upgrades to enhance storm water treatment and the facility. The upgrades are expected to be completed by December 2006.

Wastewater entering the plant is primarily of a domestic and commercial origin with only a small percentage of the total flow being industrial. The facility is designed to treat an average biochemical oxygen demand (BOD) loading of 1576 lbs/day and an average suspended solids (SS) loading of 1576 lbs/day. Normal efficiency is expected to be in the range of 85% to 90% removal of BOD and TSS. The plant has been designed to meet the discharge permit which requires a monthly daily average effluent BOD and TSS not to exceed a concentration of 30 mg/l.

The original collection system serviced the downtown areas of the city from Factory Island to the Maine Turnpike to Interstate 195. The collection system has been extended to include these major areas of the city; Windy Point, Camp Ellis, and Bay View. The entire collection system consists of interceptors and collection gravity sewers and twenty eight pump stations and force mains. The city currently has 59.7 miles of gravity and

1. APPLICATION SUMMARY (cont'd)

12.3 miles of pressure lines with 1383 sewer manholes. The sewer pipes are made from a variety of material including re-enforced concrete pipe, PVC, cast iron, clay, and asbestos cement. The collection systems are maintained by the Saco Public Works crew, while the city's 28 pump stations are maintained by the wastewater treatment facility personnel. The collection system transports the wastewater to the treatment plant. The influent sewers, two 8" inverted siphons and one 18" main are combined and then enter the inlet structure. The two 10" inverted siphon sewers servicing the Camp Ellis and Ferry Beach areas of Saco directly enter the inlet structure. Wastewater from the Process building is collected in a yard pump station located at the wastewater treatment facility that also enters the inlet structure. The yard pump station contains two submersible pumps with controls and an alarm system. The combined influent flow is evenly distributed as it leaves the inlet structure and enters the headworks. Under the 2006 facility upgrade the yard pump station will discharge into the effluent trough of the headworks.

The influent enters the headworks and flows first through a grit chamber, called a Detroiter, manufactured by Dorr-Oliver. Grit is moved by a scrapper arm to a sump; from there the grit is pumped to a cyclone-separator. The cyclone-separator washes and dewaters the grit, which is discharged into a container to be transported for final disposal. As part of the current upgrade the Detroiter will be eliminated and replaced with a Grit King swirl seperator that will be down stream of the screenings. Following the grit removal, the wastewater is screened through a fine screen separator, manufactured by Lakeside. The screenings are discharged into a container and are removed on a weekly basis.

Total influent flow is measured by an ultrasonic flow meter and a parshall flume. Flow measurement is important in monitoring the overall treatment plant performance. An influent sampler is located between the inlet structure and the headworks and the sample is drawn from the influent flow as it leaves the inlet structure.

The primary clarifier is a circular unit, 60' in diameter with a capacity of 211,385 gallons. The clarifier provides quiescent conditions for gravity sedimentation to take place. Usually 50% to 60% of the suspended solids can be separated from the wastewater and approximately 30% of the biochemical demand is also removed. A new drive unit will be placed in the clarifier during the current upgrade which is to be completed by December 2006. Influent flow enters the center of the tank into a stilling well near the surface. Solids, sludge, settle to the bottom of the tank and grease and other floatable solids, scum, rise to the surface. The sludge is collected by a scrapper mechanism, and the scum is collected by a skimmer arm. Sludge is collected in a center sump and wasted to the sludge holding tank in the process building. The scum is collected in a trough on the surface of the clarifier and flows by gravity to a scum pit where it is pumped to the sludge holding tank. The primary effluent exits the clarifier through a 24" outlet line. An aeration splitter box receives the primary effluent; the flow is mixed with the secondary return activated sludge and is discharged to the aeration system.

1. APPLICATION SUMMARY (cont'd)

The secondary treatment process begins with the aeration of the primary effluent taking place in the aeration basins. The activated sludge floc is formed, containing billions of microorganisms which break down the organic matter in the wastewater. There were originally four rectangular aeration basins, each with a capacity of 215,424 gallons. As part of the current upgrade, aeration tank # 4 was converted into a waste activated sludge holding tank for secondary sludge. The tanks are divided with basins #1 and #2 being separate from basins #3 and #4. Tanks #1 and #2 are built with a common channel which acts as a center wall dividing the two tanks. Tank #3 and the waste activated sludge holding tank are built the same way, however, are now gated off in order to prevent cross contamination. Currently, the facility is in the process of implementing baffles into aeration tanks #1, #2, and #3 in order to create anoxic zones at the head end of each tank. The anoxic zones will receive the flow from two 24" lines that leave the aeration splitter box. The anoxic zones are also designed so that the aeration tank mixed liquor will be re-circulated to the anoxic zones via internal pumps. Each anoxic zone will also contain its own mixer so that the inflowing waste remains homogenized. The dissolved oxygen level in each tank is monitored by its own remote sensor unit. The sensor unit communicates with the plant programmable logic controller (PLC) and two new 75 hp blowers will automatically control the dissolved oxygen levels. The air supply to the waste activated sludge tank is provided via a separate aeration blower that draws air from a combination of atmospheric, sludge holding tank, process building, yard pump station, and pod bay air to feed the tank. This helps serve as a means of odor control for the facility. The aeration tanks effluent flows through V-notched weirs and into a 24" pipe to a splitter box. Tanks #1 and #2 split their flow into a 24" pipe, while aeration tank #3 has its own 24" pipe.

The flow from the aeration tank effluent splitter box is split to feed either or both secondary clarifiers. The clarifiers are 75' in diameter with respective capacities of 429,375 gallons. The aeration tank effluent enters the clarifiers through a center feed column and the solids settle to the clarifier floors. Scum is collected by a skimmer mechanism and deposited in a scum box on the periphery of the tanks and is then pumped to the sludge holding tank in the process building. A sludge collector mechanism consists of a scrapper arm with sludge removal piping mounted on the collector arm. The sludge is "sucked up" through the removal piping to a sludge collection box that surrounds the center column of the clarifier. From here the sludge is returned to the aeration tanks. For waste sludge purposes the sludge may be sent to the converted waste activated sludge holding tank. The clarifier effluent flows through 24" lines to the chlorine contact chamber.

A chlorine solution, sodium hypochlorite, is added to the effluent via a peristaltic pump to further reduce disease producing microorganisms, called pathogens. The chlorine is added prior to the chlorine contact tank in a mixing well and the chlorinated wastewater is then split to two contact tank chambers where it is discharged to the final de-chlorination chamber. The facility has two chlorine solution tanks with capacity of

1. APPLICATION SUMMARY (cont'd)

1400 gallons each and is located in the process building. The levels of each tank are read via individual level sensors and are monitored daily. The chlorinated effluent from the contact chambers flow over a flat weir and are combined together before entering the de-chlorination chamber.

In the de-chlorination chamber, sodium bisulfite, is added to remove the chlorine residual left from the chlorinated effluent. The sodium bisulfite is stored in two double wall protection tanks with a capacity of 405 gallons each. The sodium bisulfite is kept in a stand-alone building next to the chlorine contact tank. The chemical is delivered to the de-chlorination chamber by a peristaltic pump at quantities varying depending on the chlorine residual. The facility currently operates the chlorination and de-chlorination pump settings flow paced or manual, however, as part of the upgrade will be incorporating a Chlorine analyzer to refine this process. The final effluent is de-chlorinated upon contact with the sodium bisulfite and is then discharged to the primary outfall pipe. An effluent sampler is located above the de-chlorination structure and the sample is drawn from the effluent flow as it leaves the structure. The outfall pipe is 36" in diameter and extends approximately 700 feet out into the Saco River. A secondary bank outfall pipe that is 36" in diameter is active when the primary outfall/diffuser surcharges during periods of extreme high tides. As part of the current storm water upgrade, the

The secondary sludge from the two clarifiers is either returned to the aeration tanks, sent to the waste activated sludge holding tank, or sent directly to the rotary sludge thickener. Both clarifiers have two pumps driven by variable frequencies. The return activated and waste activated sludge are both measured by separate magnetic flow meters. The return activated sludge is pumped back to the aeration splitter box which mixes with the influent flow and divides itself evenly between the aeration tanks. The waste activated sludge is sent to the rotary sludge thickener. From there the thickened sludge falls through a chute into the sludge holding tanks which houses the sludge from the rotary sludge thickener, primary clarifier, and scum from all three clarifier scum boxes. This blended sludge is then pumped through a Penn Valley double-disc pump to the Fournier, a sludge dewatering mechanism. Polymer is added to the waste activated sludge prior to entering the rotary sludge thickener, and again before entering the Fournier dewatering mechanism. The dewatered sludge is then conveyed into a large container that is removed by an outside contractor. The amount of final dewatered sludge and % solids are closely monitored.

The facility is funded through sewer user and impact fees and currently has 4,250 accounts which it handles internally. The City of Saco has roughly 23,000 residents. The facility is very proactive at treating the wastewater from the large amount of residents and seasonal visitors. Currently, the facility is in the midst of two large upgrades to better the treatment facility.

See Attachment B of this Fact Sheet for a schematic of the waste water treatment facility.

1. APPLICATION SUMMARY (cont'd)

d. Permit modification requested: The permittee has requested the following modifications be incorporated into this permitting action:

1. Authorize the discharge of disinfected primary treated waste waters from a swirl separator to the Saco River during wet weather events.

2. PERMIT SUMMARY

a. History: The most current relevant licensing/permitting actions for the City of Saco's waste water treatment facility include the following:

June 25, 1996 – The Department issued WDL #W002599-46-C-R for a five-year term.

September 30, 1996 – The U.S. Environmental Protection Agency (EPA) issued a renewal of National Pollutant Discharge Elimination System (NPDES) permit #ME0101117 for a five-year term.

May 23, 2000 – The Department administratively modified the 6/25/96 WDL to establish interim average and maximum concentration limits for mercury.

January 12, 2001 – The State of Maine received authorization from the EPA to administer the NPDES permitting program. From that date forward, the permitting program has been referred to as the MEPDES permit program and permit #ME0101117 (same as the NPDES permit number) has been used as the primary reference number for the Saco facility.

July 5, 2001 – The Department issued combination MEPDES permit #ME0101117/ WDL #W002599-5L-E-R for a five-year term.

March 15, 2006 – The City submitted a toxicity reduction evaluation (TRE) for the sea urchin. The TRE has been reviewed and approved by the Department.

March 31, 2006 – The City submitted a timely and complete application to the Department to renew the MEPDES permit.

April 10, 2006 – The Department issued a modification of the 7/5/01 MEPDES permit by incorporating the testing requirement associated with the Department's rule, Chapter 530, *Surface Water Toxics Control Program* promulgated in October of calendar year 2005.

2. PERMIT SUMMARY (cont'd)

b. Terms and Conditions - This permitting action is carrying forward all the terms and conditions of the 7/5/01 permit and establishing new requirements as follows:

1. Authorizing the use of a swirl separator to provide primary treatment and disinfection of wet weather flows that exceed the capacity of the secondary treatment components of the waste water treatment facility.

2. Eliminating the monthly average water quality based mass and concentration limits for arsenic.

3. Establishing daily maximum water quality based mass and concentration limits for copper and eliminating the monthly average water quality based limits for copper.

4. Establishing monthly average water quality based mass and concentration limits for ammonia and eliminating the daily maximum water quality based limits for ammonia.

5. Requiring the permittee to update the Operations & Maintenance (O&M) plan and the Wet Weather Flow Management Plan for the waste water treatment facility on or before June 1, 2007.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., Section 469 (8) (E) (2) states that the Saco River at and below the City of Saco's discharge is classified as a Class SC waterway. Maine law 38 M.R. S.A. Section 465 (B) (3) describes the standards for this classification.

5. RECEIVING WATER QUALITY CONDITIONS:

The 2004 Integrated Water Quality Monitoring and Assessment Report also lists the freshwater segment of the Saco River at Biddeford-Saco including Thatcher Brook [Assessment Unit (HUC) #ME0106000211, segment ID #619R] in a table entitled *Category 4-B-2: Rivers and Streams Impaired by Bacteria from Combined Sewer Overflows (TMDL Required only if Control Plans are Insufficient)* and also lists the marine waters of the Saco River below the Saco and Biddeford waste water treatment facilities [Waterbody ID 811-7] in a table entitled *Category 4-B-2: Estuarine and Marine Waters Impaired by Bacteria from Combined Sewer Overflows (TMDL Required only if Control Plans are Insufficient)* due to the seven CSOs associated with the permittee's collection system. See Section 8, *Combined Sewer Overflows*, of this Fact Sheet for a summary of the actions the permittee has taken to mitigate CSO activities and improve the water quality in the Saco River. The phrase "TMDL Required Only if Control Plans are Insufficient" in the title of both categories of the 305b Report refers to installation of the new Storm King swirl separator as the control measure. Installation of the swirl separator will allow the facility to provide primary treatment and disinfection for an additional 5.6 MGD of wet weather flows (above and beyond 8.0 MGD receiving secondary treatment) that were previously discharged untreated via the seven CSO's in the collection system. The swirl separator is scheduled for completion in December 2006 and be fully operational for wet weather flows in the spring of 2007.

In addition to being listed in category 4-B-2, the Saco River Estuary is listed in a table entitled, *Estuarine And Marine Waters Impaired By Pollutants Other Than Those Listed In 5-B-5-D (TMDL required)*. The table indicates aquatic life criteria for 576 acres of Class SC waters is impaired due to elevated levels of fecal coliform bacteria, copper and other toxic pollutants. The Department last sampled the are in 1998 and is scheduled to complete the TMDL in calendar year 2008. If the TMDL indicates the discharge(s) from the Saco waste water treatment facility is causing or contributing to said impairment, this permit may be reopened pursuant to Special Condition N, *Reopening of Permit For Modifications*, to impose new or revised limitations and/or monitoring requirement to bring the waterbody into attainment.

It is noted that all fresh water bodies in Maine carry a fish advisory for mercury due to atmospheric transport and deposition. Maine law 38 M.R.S.A., §420 and Department Rule, Chapter 519, *Interim Effluent Limitations and Controls For the Discharge of Mercury*, establishes controls of mercury to surface waters of the State and United States through interim effluent limitations and implementation of pollution prevention plans. On May 23, 2000, the Department administratively modified the permittee's WDL by establishing an average concentration limit of 8.1 ng/L and a daily maximum concentration limit of 12.1 ng/L with a monitoring frequency of 1/Quarter based on a past demonstrated performance evaluation of four mercury test results submitted between August of 1998 and September of 1999.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average flow limit of 4.2 MGD that is being carried forward in this permitting action and is considered to be representative of the monthly average dry weather flow design capacity of the biological (secondary) treatment facility. A review of the monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2002 – December 2005 indicate the mean monthly flow has ranged from 1.01 MGD to 3.7 MGD with an arithmetic mean of 2.08 MGD.

b. Dilution Factors: Department Regulation Chapter 530 *Surface Water Toxics Control Program*, §4(a)(2) states:

(1) *For estuaries where tidal flow is dominant and marine discharges, dilution factors are calculated as follows. These methods may be supplemented with additional information such as current studies or dye studies.*

(a) For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model.

(b) For discharges to estuaries, dilution must be calculated using a method such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.

(c) In the case of discharges to estuaries where tidal flow is dominant and marine waters, the human health criteria must be analyzed using a dilution equal to three times the chronic dilution factor.

Using plan and profile information previously submitted to the Department by the permittee and the CORMIX model, the Department has determined the dilution factors for the discharge of 4.2 MGD from the waste water treatment facility are as follows:

Acute = 7.0:1 Chronic = 17.5:1 Harmonic mean = 52.5:1[(1)]

Footnote:

(1) Pursuant to Department rule Chapter 530, "*Surface Water Toxics Control Program*", §4(2)(c), the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by a factor of three (3).

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

c. Biochemical Oxygen Demand & Total Suspended Solids – The previous permitting action established technology based monthly and weekly average biochemical oxygen demand (BOD5) and total suspended solids (TSS) concentration limits of 30 mg/L and 45 mg/L respectively, pursuant to Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of best practicable treatment (BPT). All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous permitting action established monthly and weekly average BOD5 and TSS mass limitations based on the monthly average design flow capacity of 4.2 MGD and the corresponding monthly average and weekly average concentration limits. For communities with combined sewer overflows (CSO's), the Department has not been establishing daily maximum mass limits for BOD5 and TSS as imposition of such limits discourages waste water treatment facilities from treating as much waste water through the secondary treatment process during wet weather events.

Monthly and weekly average BOD and TSS mass loading calculations at 4.2 MGD are as follows:

Monthly average = (30 mg/L) (4.2 MGD) (8.34) = 1,050 lbs/day
Weekly average = (45 mg/L) (4.2 MGD) (8.34) = 1,576 lbs/day

For BOD, a review of the monthly DMR data for the period January 2002 to December 2005 indicates the monthly average mass discharged has ranged from 33 lbs/day to 639 lbs/day with an arithmetic mean of 147 lbs/day. As for concentration, the DMR data indicates the monthly average concentration of BOD discharged has ranged from 5 mg/L to 33 mg/L with an arithmetic mean of 7.9 mg/L. The DMR indicates BOD limits have never been exceeded in said timeframe.

For TSS, a review of the monthly DMR data for the period January 2002 to December 2005 indicates the monthly average mass discharged has ranged from 21 lbs/day to 652 lbs/day with an arithmetic mean of 96 lbs/day. As for concentration, the DMR data indicates the monthly average concentration of TSS discharged has ranged from 2 mg/L to 14 mg/L with an arithmetic mean of 4.2 mg/L.

The monitoring frequency of 3/Week in the previous permitting action is being carried forward in the permitting action and is based on long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

d. Settleable Solids - The previous permit established a technology based daily maximum concentration BPT limit of 0.3 ml/L that is being carried forward in this permitting action. A review of the monthly DMR data for the period January 2002 to December 2005 indicates the daily maximum settleable solids concentration has been reported as 0.0 mg/L 96% of the months evaluated in said time with some isolated violations in April 2004 and April 2005.

The monitoring frequency of 1/Day in the previous permitting action is being carried forward in the permitting action and is based on long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

e. Fecal Coliform Bacteria – The previous permitting action established water quality based monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, that are being carried forward in this permitting action. The limits are based on the Water Classification Program criteria for the receiving waters (including standards in the National Shellfish Sanitation Program) and requires application of the BPT. The limits have been and will continue to be in effect on a year-round basis to protect shellfish harvesting areas downstream of the discharge.

A review of the monthly DMR data for the period January 2002 to December 2005 indicates the monthly average (geometric mean) bacteria levels have ranged from 1 colony/100 ml to 10 colonies/100 ml with an arithmetic mean of 2.7 colonies/100 ml. As for the daily maximum, the DMR data indicates the bacteria levels range from 1 colony/100 ml to 252 colonies/100 ml with an arithmetic mean of 29 colonies/100 mL. The DMR data indicates the permittee has been in compliance with the monthly average limit 100% of the time and in compliance with the daily maximum limit 91% of the months evaluated in said timeframe.

The monitoring frequency of 3/Week in the previous permitting action is being carried forward in the permitting action and is based on long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

f. Total Residual Chlorine - Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The previous permitting action established a daily maximum water quality based limit of 0.091 mg/L for the discharge. Water quality based thresholds for TRC can be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	13 ug/L	7.5 ug/L	7.0:1	17.5:1	0.091 mg/L	0.13 mg/L

Example calculation: Acute – 0.013 mg/L (7.0) = 0.091 mg/L

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

To meet the water quality based thresholds calculated above, the permittee has been dechlorinating the effluent prior to discharge. In April of 1999, the Department established a new daily maximum BPT limitation of 0.3 mg/L for facilities that need to dechlorinate their effluent unless calculated water quality based thresholds are lower than 0.3 mg/L. In the case of the City of Saco, the calculated daily maximum water quality based threshold is lower than 0.3 mg/l, thus the water quality based limit 0.091 mg/L is imposed. As for the monthly average limitation, the Department's BPT limitation is 0.1 mg/L. Being that the calculated daily maximum water quality based limit is lower than the BPT limit of 0.1 mg/L, no monthly average limit for TRC is being established in this permitting action.

The DMR data for the period January 2002 to December 2005 indicates the daily maximum concentration levels of TRC ranged from 0.02 mg/L to 0.18 mg/L with an arithmetic mean of 0.05 mg/L. The DMR data indicates the permittee is in compliance with the daily maximum limit 92% of the months in said timeframe with the 0.18 mg/L in January 2004 being the only exceedence reported.

The monitoring frequency of 1/Day in the previous permitting action is being carried forward in the permitting action and is based on a long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

g. pH – The previous permitting action established a pH range limitation of 6.0 –9.0 standard units that is being carried forward in this permitting action. The limits are based on Department rule, Chapter 525(3)(III)(c) and are considered BPT by the Department. The DMR data for the period January 2002 to December 2005 indicates the permittee has never violated said range limit.

The monitoring frequency of 1/Day in the previous permitting action is being carried forward in the permitting action and is based on long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

h. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W002599-5L-E-R by establishing interim monthly average and daily maximum effluent concentration limits of 8.1 parts per trillion (ppt) and 12.1 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

i. Whole Effluent Toxicity (WET), Analytical Chemistry & Priority Pollutant Testing: Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing as required by Chapter 530 is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and receiving water characteristics.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria as established in Chapter 584.

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

Level I – chronic dilution factor of <20:1.
Level II – chronic dilution factor of ≥20:1 but <100:1.
Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD.
Level IV – chronic dilution >500:1 and Q ≤1.0 MGD.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Department rule Chapter 530 (2)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the permittee's facility falls into the Level I frequency category as the facility has a chronic dilution factor ≤20:1. Chapter 530(2)(D)(1) specifies that routine surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
I	4 per year	1 per year	4 per year

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
I	2 per year	Not required	4 per year

A review of the data on file with the Department for the City indicates that to date, it has fulfilled the WET and chemical-specific testing requirements of the former Chapter 530.5. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical-specific test dates.

Chapter 530(2)(D)(3)(d) states in part that for Level I facilities "... *may reduce surveillance testing to one WET or specific chemical series per year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E)*".

Chapter 530 §(3)(E) states "*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

WET test evaluation

On April 6, 2006, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach in Chapter 530. The statistical evaluation indicates the discharge from the permittee's waste water treatment facility has one test result of 5.7% for the sea urchin on 11/13/05 that has a reasonable potential to exceed the critical chronic water quality threshold of 5.7%. Therefore, a limitation of 5.7% is being established in this permit. As for the remaining WET species tested to date, there are no exceedences or reasonable potential to exceed critical acute or chronic water quality thresholds. Therefore, no additional WET limits are being established in this permitting action.

Based on the results of the 4/6/06 statistical evaluation, the permittee qualifies in part for the testing reduction. Therefore, this permit action establishes a surveillance level WET testing requirements as follows:

Beginning upon permit issuance and lasting through 12 months prior to permit expiration.

Level	WET Testing
I	1 per year for the mysid shrimp 2 per year for the sea urchin

Department rule Chapter 530 (2)(D)(1) specifies that screening level testing is to be established as follows:

Beginning 12 months prior to and lasting through permit expiration and every five years thereafter.

Level	WET Testing
I	4 per year

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Analytical chemistry & Priority pollutant testing evaluation

As with WET test results, on April 6 2006, the Department conducted a statistical evaluation on the most recent 60 months of analytical chemistry and priority pollutant test results on file with the Department in accordance with the statistical approach outlined in Chapter 530. The statistical evaluation indicates the discharge has two ammonia test results that have a reasonable potential to exceed the chronic AWQC for ammonia and one test result for copper that has a reasonable potential to exceed the acute AWQC for copper. All other parameters evaluated do not exceed or have a reasonable potential to exceed acute, chronic or human health AWQC. The ammonia and copper results of concern are as follows:

Date	Parameter	Test result	AWQC Criteria	RP threshold(1)
9/404	Ammonia	16,000 ug/L	Chronic–1,000ug/L	9,200 ug/L
6/9/04	Ammonia	15,000 ug/L	Chronic-1,000 ug/L	9,200 ug/L
9/27/02	Copper	25 ug/L	Acute-5.78 ug/L	21.2 ug/L

Footnotes:

(1) RP factor of 1.9 for ammonia was based on an "n"=11 test results.
RP factor of 1.9 for copper based on an "n"=10 test results.

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

Chapter 530 §4(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions.*" *The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.* The Department has very limited information on the background levels of metals in the water column of the Saco River. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Chapter 530 4(E), states *"In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity".* Therefore, the Department is reserving 15% of the applicable water quality criteria in the calculations of this permitting action.

Chapter 530 §(3)(E) states *"... that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*

Chapter 530 §(3)(D) states *"Expression of effluent limits. Where the need for effluent limits has been determined, limits derived from acute water quality criteria must be expressed as daily maximum values. Limits derived from chronic or human health criteria must be expressed as monthly average values."* Therefore, this permit establishes monthly average (chronic) end-of-pipe (EOP) mass and concentrations limits for ammonia and daily maximum (acute) EOP mass and concentration limits for copper. The derivation for these limits is as follows:

Ammonia:

Chronic AWQC = 1,000 ug/L⇒ Based on T= 20°C, Salinity = 20 ppt, ph = 7.0 SU
Chronic dilution factor = 17.5:1

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [17.5 x 0.75 x 1,000 ug/L] + [0.25 x 1,000 ug/L] = 13,375 ug/L

Based on a permitted flow of 4.2 MGD, EOP mass limits are as follows:

Parameter	Calculated EOP Concentrations	Month Avg. Mass Limit
Ammonia	13,375 ug/L	469 lbs/day

Example Calculation: Ammonia - $\frac{(13{,}375 \text{ ug/L})(8.34)(4.2 \text{ MGD})}{1000 \text{ ug/mg}}$ = 469 lbs/day

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Copper:

Acute AWQC = 5.78 ug/L
Acute dilution factor = 7.0:1

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [7.0 x 0.75 x 5.78 ug/L] + [0.25 x 5.78 ug/L] = 31.8 ug/L or 32 ug/L

Based on a permitted flow of 4.2 MGD, EOP mass limits are as follows:

Parameter	Calculated EOP Concentrations	Daily Max Mass Limit
Copper	31.8 ug/L	1.1 lbs/day

Example Calculation: Ammonia - $\frac{(31.8\ ug/L)(8.34)(4.2\ MGD)}{1000\ ug/mg} = 1.1$ lbs/day

Chapter 530 §(3)(D)(1) states "*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded. With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable.*"

As not to penalize the permittee for operating at flows less than the permitted flow, the Department is establishing concentration limits based on a factor of 1.5. Therefore, concentration limits for the parameter of concern in this permit are as follows:

Parameter	Calculated EOP Concentration	Monthly Avg. Conc. Limit	Daily Max. Conc. Limit
Ammonia	13.4 mg/L	20 mg/L	---
Copper	31.8 ug/L	---	48 ug/L

Chapter 530 does not establish specific monitoring frequencies for parameters that exceed or have a reasonable to exceed AWQC. This permitting action is establishing the monitoring requirement frequencies for ammonia and copper based on a best professional judgment given the timing, frequency and severity of the exceedence or reasonable to

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

exceed AWQC. To be consistent with the Department's 4/10/06 permit modification, the Department is carrying forward a monitoring frequency of 1/Quarter for ammonia and 1/Year for copper.

With the exception of ammonia (as N) and copper, monitoring frequencies for priority pollutant and analytical testing established in this permitting action are based on the Chapter 530 rule. Chapter 530(2)(D)(3)(d) states in part that for Level I facilities "*... may reduce surveillance testing to one WET or specific chemical series per year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E)*". Based on the results of the 4/6/06 statistical evaluation, the permittee qualifies for the testing reduction. Therefore, this permit action establishes a surveillance level analytical testing (with the exception of ammonia and copper) requirements as follows:

Beginning upon permit issuance and lasting through 12 months prior to permit expiration.

Level	Priority pollutant testing	Analytical chemistry
I	Not required	1 per year

Department rule Chapter 530 (2)(D)(1) specifies that screening level testing is to be establishes for analytical chemistry and priority pollutant testing requirements as follows:

Beginning 12 months prior to and lasting through permit expiration and every five years thereafter

Level	Priority pollutant testing	Analytical chemistry
I	1 per year	4 per year

Chapter 530 (2)(D) states:

(4) All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Special Condition L, *Chapter 530 (2)(D)(4) Certification*, of this permitting action requires the permittee to file an annual certification with the Department.

In the event future statistical evaluations demonstrate that the reasonable potential to exceed AWQC is no longer applicable for ammonia or copper or that the result(s) in question fall outside the 60 month evaluation period, this permit may be reopened pursuant to Special Condition M, *Reopening of Permit For Modifications*, of this permit to remove the limitation(s) and or reduce the monitoring requirement(s).

j. Septage – The previous permitting action authorized the City to accept and treat up to 7,000 gpd of septage from local septage haulers. Department rule Chapter 555, *Addition of Septage To Waste Water Treatment Facilities*, limits the quantity of septage treated at a facility to 1% of the design capacity of treatment facility. In their application for permit renewal the City has requested the Department carry forward the daily quantity of septage it is authorized to accept of 7,000 gpd. With a design capacity of 4.2 MGD, 7,000 gpd only represents 0.17% of said capacity. The permittee has submitted an up-to-date Septage Management Plan as an exhibit to their March 2006 application for permit renewal. The Department has reviewed and approved said plan and determined that under normal operating conditions, the addition of 7,000 gpd of septage to the facility will not cause or contribute to upset conditions of the treatment process.

Outfall #001B– Primary Treatment – Swirl Separator

Based on the permittee's soon to be completed facility upgrade, influent flow greater than the peak secondary flow rate of 5,556 gpm (8.0 MGD – 3.4 MGD from the eastside and 4.6 MGD from the west side) will be conveyed through the CSO related diversion around secondary treatment and receive primary treatment via a swirl separator and disinfected by way of a dedicated high-rate disinfection system prior to discharge. The total treatment capacity (primary and secondary) is 9,444 gpm or 13.6 MGD. The swirl separator capacity in of itself is 3,889 gpm (5.6 MGD).

For those excess combined sewer flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a best professional judgment that primary treatment and disinfection constitute best practicable and appropriate treatment and will meet applicable water quality standards. A daily maximum fecal coliform bacteria limit of 200 colonies per 100 ml for the discharge from the swirl separator is based on a Department best professional judgment of BPT for swirl separators discharging to marine waters. Limits on total residual chlorine are specified to ensure attainment of marine water quality criteria for levels of chlorine and that the best practicable treatment technology is utilized to abate the discharge of chlorine. A BPT based daily maximum total residual chlorine limit of 1.0 mg/L has been established in this permitting action.

8. CSO ABATEMENT

The City of Saco submitted a CSO Master Plan entitled *Combined Sewer Overflow Master Abatement Plan* to the Department in October of 1995. The document contained a schedule consisting of various projects planned through calendar year 2016 to mitigate, eliminate and or provide treatment for wet weather flows that are currently being discharged untreated through the above referenced CSO outfalls. The CSO Master Plan was approved by the Department and EPA. On April 30, 2001, the City of Saco provided the Department with an up-to-date CSO Master Plan project schedule (exhibit in the application for permit renewal) for the period calendar year 2001 through calendar 2005.

The permittee has indicated the schedule in the 1995 CSO Master Plan remains applicable. The implementation schedule may be amended from time to time based on mutual agreements between the City of Saco and the Department.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge from the waste water treatment plant will not cause or contribute to the failure of the waterbody to meet standards for Class SC classification.

The Department acknowledges that total elimination of the CSO's is a costly long term project. With implementation of the CSO Master Plan and Nine Minimum Controls, the Department anticipates a significant reduction in CSO events and continued improvement in the water quality in the Saco River and minor tributaries affected by the CSO discharges.

10. PUBLIC COMMENTS:

Public notice of this application was made in the Journal Tribune newspaper on or about April 1, 2006. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

11. DEPARTMENT CONTACTS:

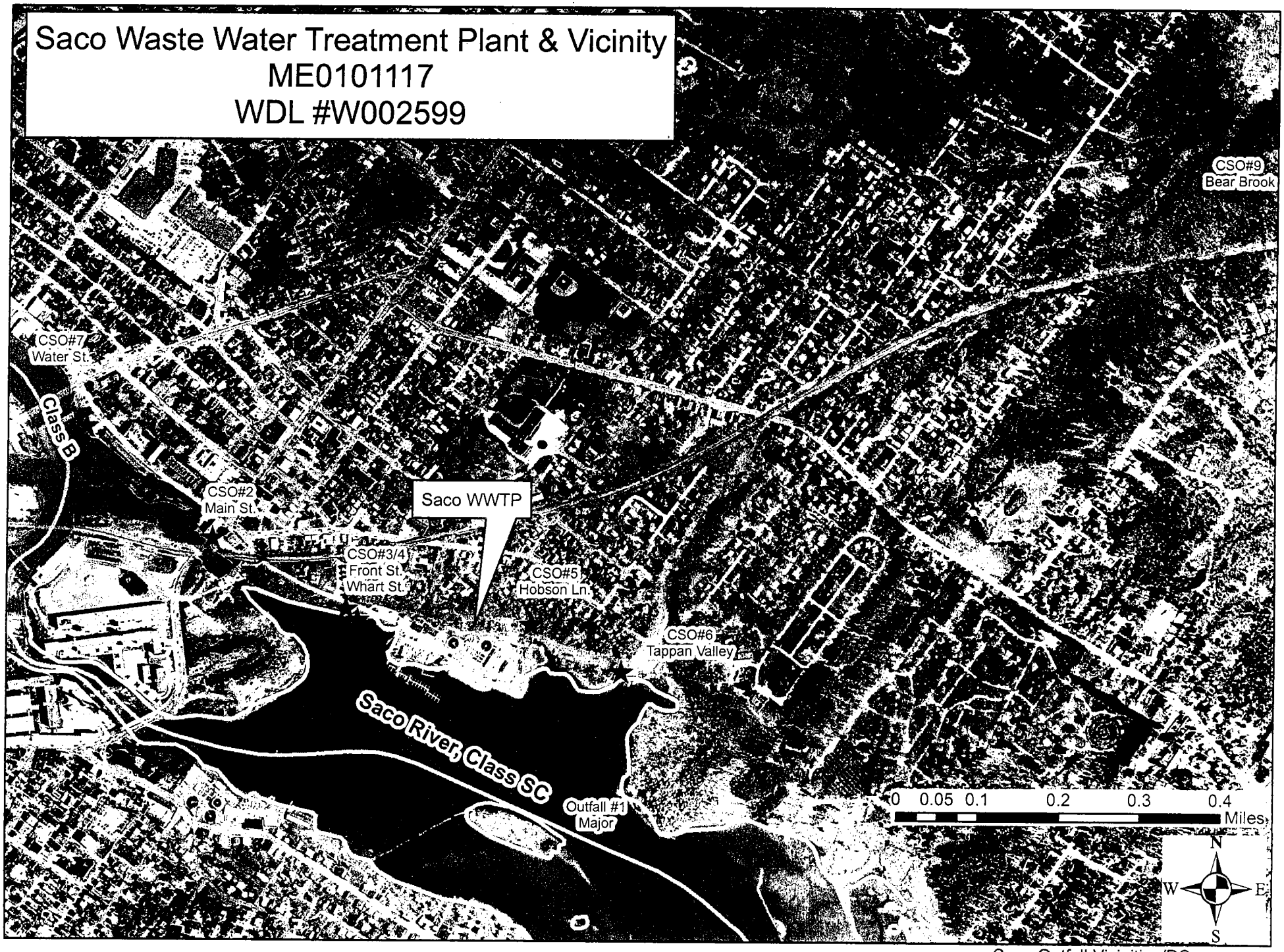
Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone (207) 287-7693
e-mail: gregg.wood@maine.gov

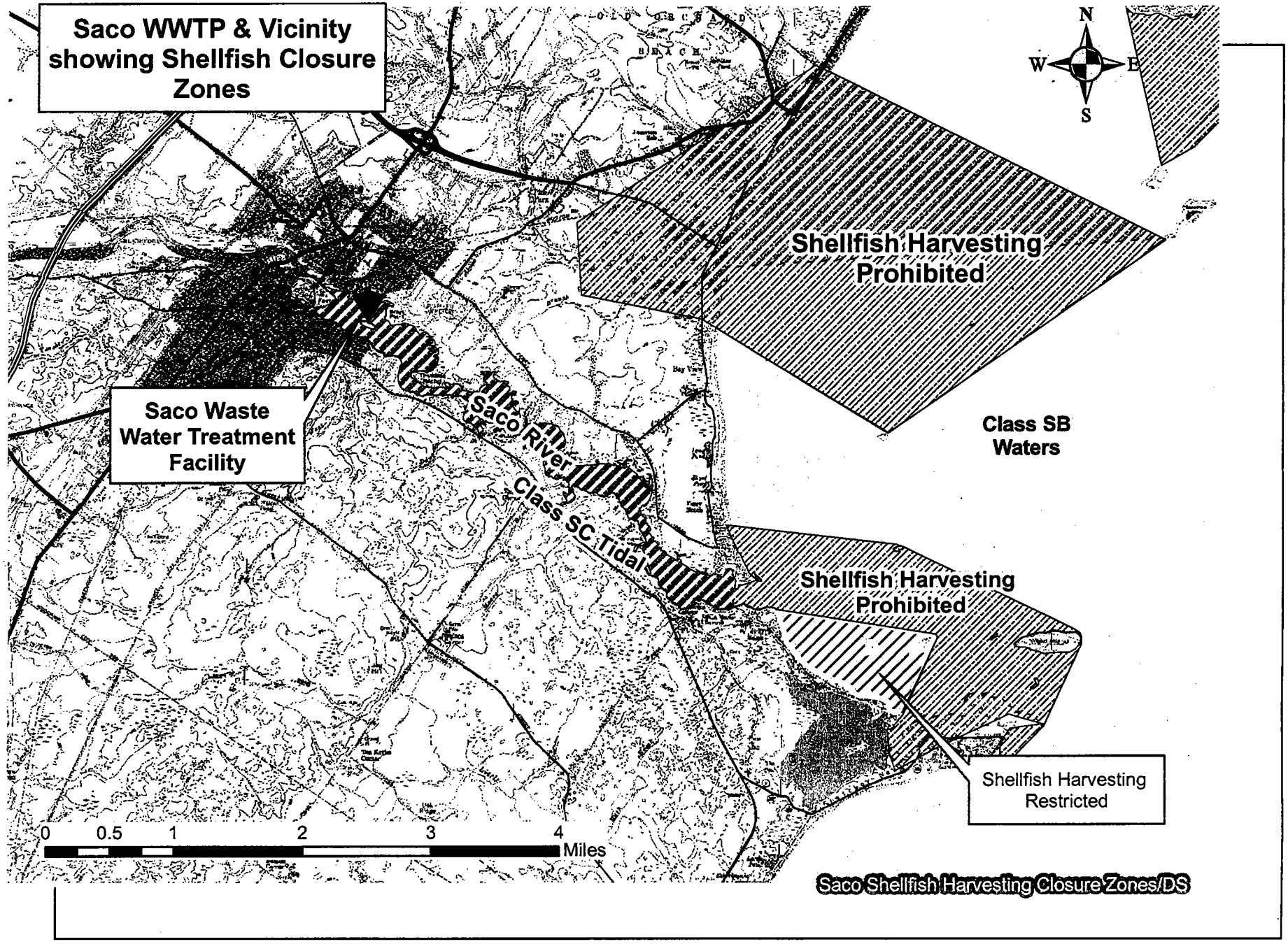
12. RESPONSE TO COMMENTS

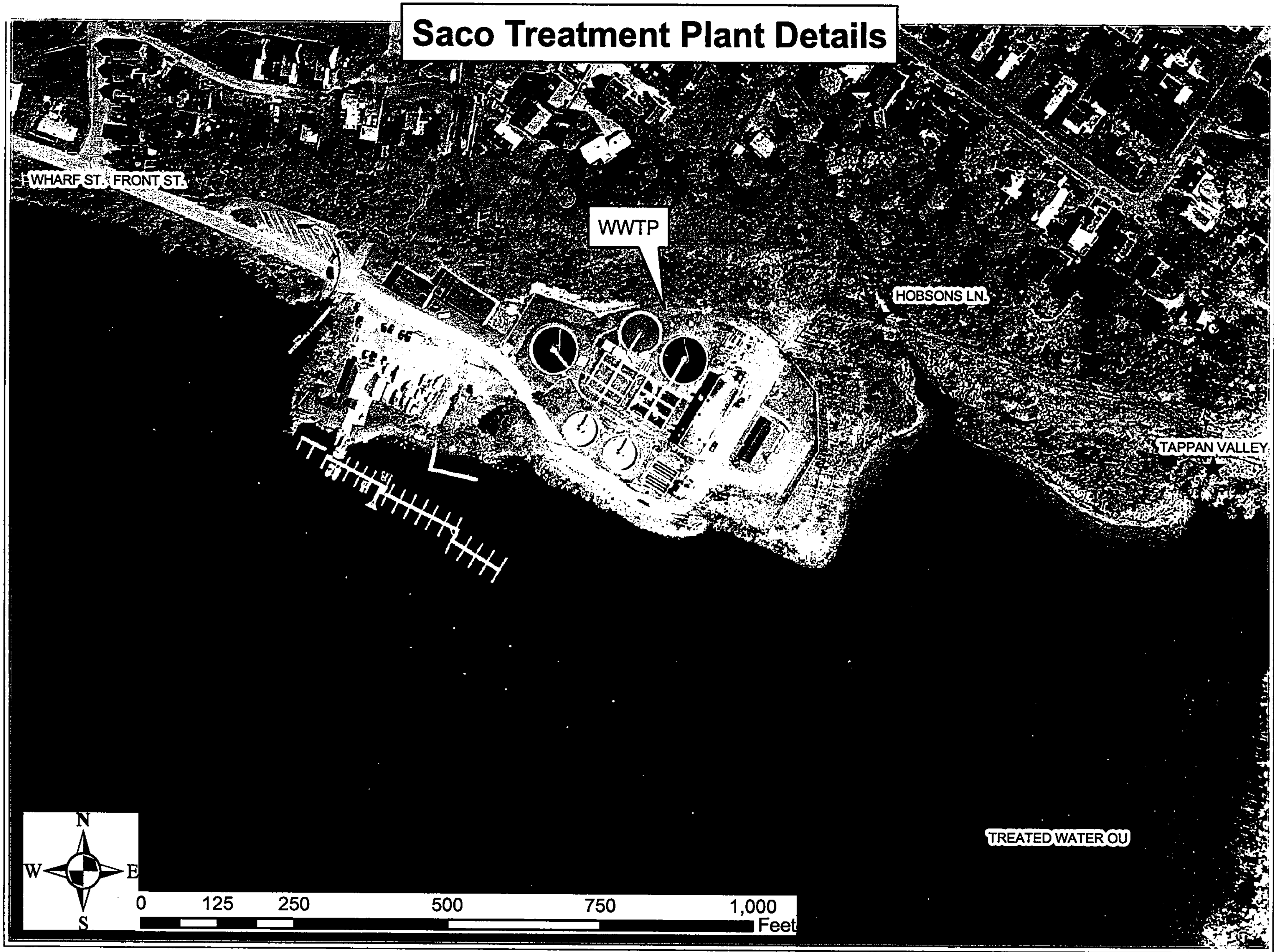
During the period May 23, 2006 through issuance of this permit, the Department solicited comments from state and federal agencies as well as parties that expressed interest in the proposed draft permit for the City of Saco's waste water treatment facility. The Department received written comments from the permittee on a number minor typographical type errors that did not result in any substantive changes to the final permit. Therefore, no Response to Comments has been prepared.

ATTACHMENT A

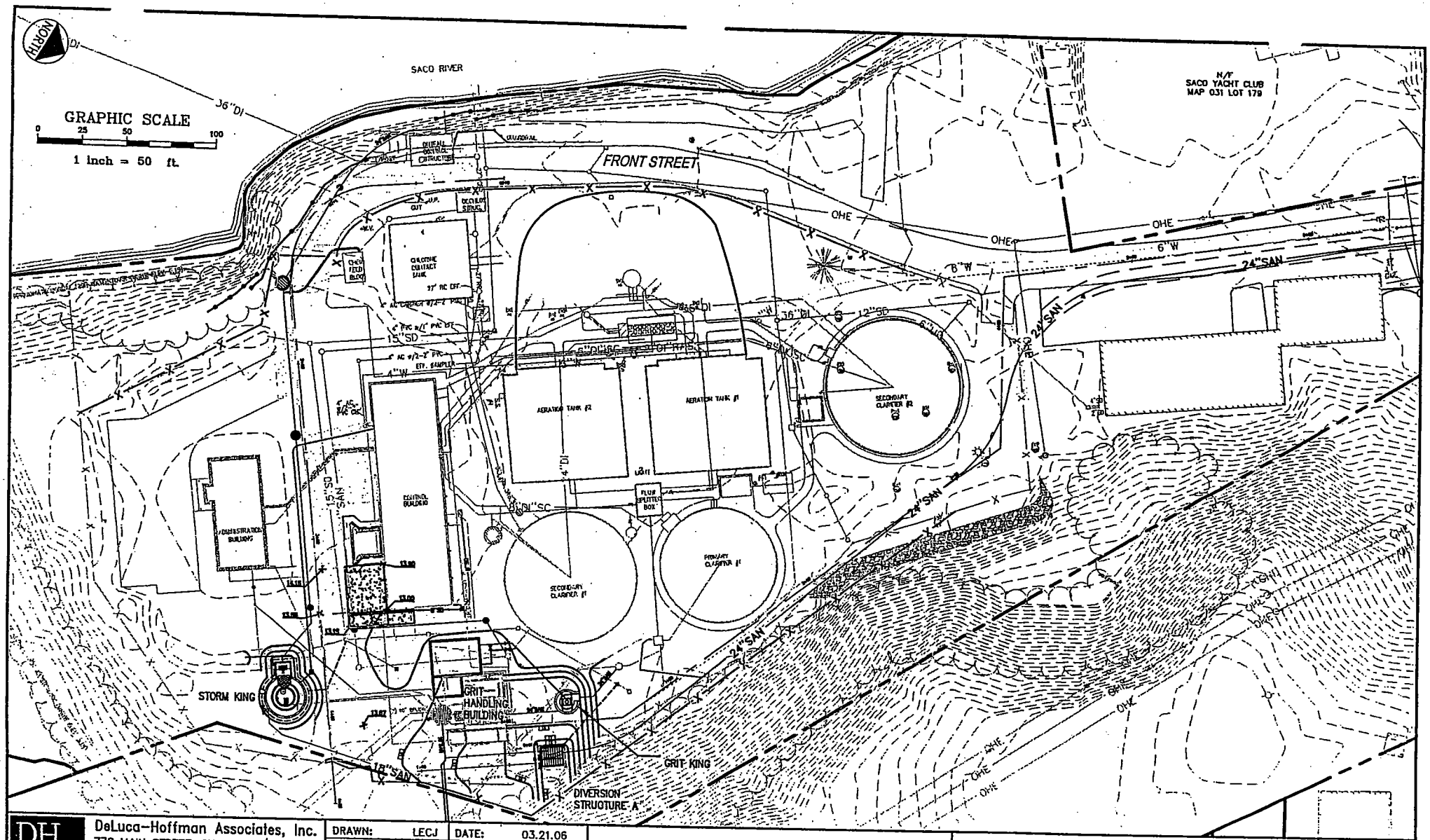


Saco Outfall Vicinities/DS

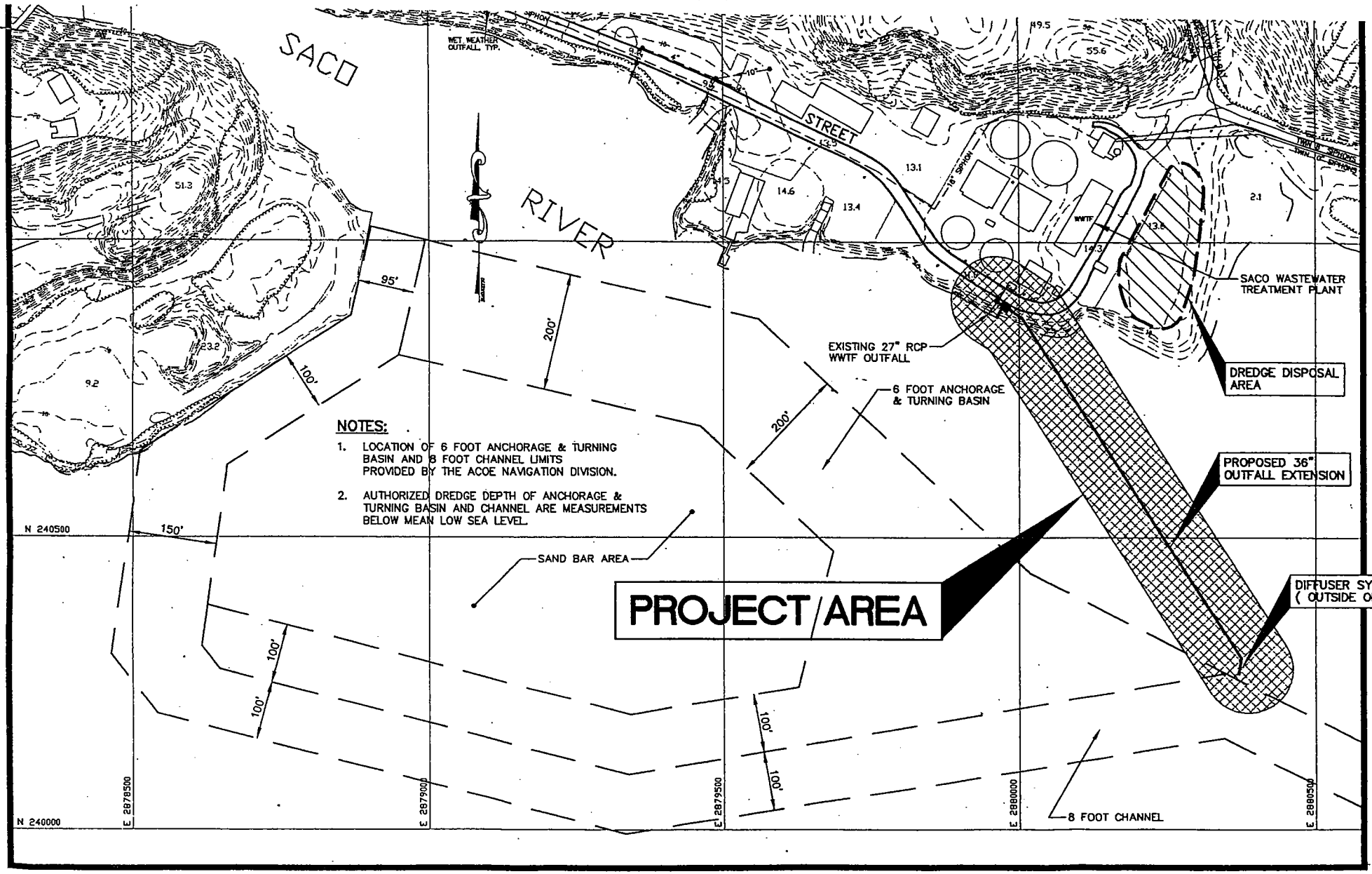

Saco WWTP & Vicinity showing Shellfish Closure Zones
N
W
E
S
Shellfish Harvesting Prohibited
Saco Waste Water Treatment Facility
Saco River
Class SC Tidal
Class SB Waters
Shellfish Harvesting Prohibited
Shellfish Harvesting Restricted
0 0.5 1 2 3 4 Miles
Saco Shellfish Harvesting Closure Zones/DS


Saco Treatment Plant Details
WHARF ST.
FRONT ST.
WWTP
HOBSONS LN.
TAPPAN VALLEY
TREATED WATER OU
N
W
E
S
0
125
250
500
750
1,000
Feet

ATTACHMENT B



DH	DeLuca–Hoffman Associates, Inc. 778 MAIN STREET, SUITE 8 SOUTH PORTLAND, ME 04106 (207) 775–1121 DHAI@MAINE.RR.COM	DRAWN: LECJ DESIGNED: CJO CHECKED: CJO FILE NAME: 2556–SP	DATE: 03.21.06 SCALE: 1"=50' JOB NO. 2556	SACO WASTEWATER TREATMENT FACILITY	PLANT LAYOUT	FIGURE 1



NOTES:

1. LOCATION OF 6 FOOT ANCHORAGE & TURNING BASIN AND 8 FOOT CHANNEL LIMITS PROVIDED BY THE ACOE NAVIGATION DIVISION.
2. AUTHORIZED DREDGE DEPTH OF ANCHORAGE & TURNING BASIN AND CHANNEL ARE MEASUREMENTS BELOW MEAN LOW SEA LEVEL.

VICINITY MAP

1" - 150'

ATTACHMENT C

Species	Test	Test Result %	Sample Date
MYSID SHRIMP	A_NOEL	50	11/16/1992
MYSID SHRIMP	LC50	>100	11/16/1992
SEA URCHIN	C_NOEL	100	11/16/1992
SILVER SIDE	C_NOEL	100	11/16/1992
MYSID SHRIMP	A_NOEL	25	03/01/1993
MYSID SHRIMP	LC50	50	03/01/1993
SEA URCHIN	C_NOEL	25	03/01/1993
SILVER SIDE	C_NOEL	50	03/01/1993
MYSID SHRIMP	A_NOEL	100	06/07/1993
MYSID SHRIMP	LC50	>100	06/07/1993
SILVER SIDE	C_NOEL	25	06/07/1993
MYSID SHRIMP	A_NOEL	100	08/22/1993
MYSID SHRIMP	LC50	>100	08/22/1993
SEA URCHIN	C_NOEL	50	08/22/1993
SILVER SIDE	C_NOEL	100	08/22/1993
MYSID SHRIMP	A_NOEL	100	11/28/1993
MYSID SHRIMP	LC50	>100	11/28/1993
SEA URCHIN	C_NOEL	12.5	11/28/1993
SILVER SIDE	C_NOEL	25	11/28/1993
MYSID SHRIMP	A_NOEL	50	02/27/1994
MYSID SHRIMP	LC50	100	02/27/1994
SEA URCHIN	C_NOEL	25	02/27/1994
SILVER SIDE	C_NOEL	50	02/27/1994
MYSID SHRIMP	A_NOEL	50	05/22/1994
MYSID SHRIMP	LC50	79	05/22/1994
SEA URCHIN	C_NOEL	6.25	05/22/1994
SILVER SIDE	A_NOEL	50	05/22/1994
SILVER SIDE	C_NOEL	56	05/22/1994
SILVER SIDE	LC50	76	05/22/1994
MYSID SHRIMP	A_NOEL	100	08/22/1994
MYSID SHRIMP	LC50	>100	08/22/1994
SEA URCHIN	C_NOEL	100	08/22/1994
SILVER SIDE	A_NOEL	100	08/22/1994
SILVER SIDE	C_NOEL	<6.25	08/22/1994
SILVER SIDE	LC50	>100	08/22/1994
MYSID SHRIMP	A_NOEL	75	05/22/1995
MYSID SHRIMP	LC50	>100	05/22/1995
SEA URCHIN	C_NOEL	<6.25	05/22/1995
SILVER SIDE	A_NOEL	100	05/22/1995
SILVER SIDE	C_NOEL	50	05/22/1995
SILVER SIDE	LC50	>100	05/22/1995
MYSID SHRIMP	A_NOEL	60	09/11/1995

Species	Test	Test Result %	Sample Date
MYSID SHRIMP	LC50	<100	09/11/1995
SEA URCHIN	C_NOEL	<6.25	09/11/1995
SILVER SIDE	A_NOEL	100	09/11/1995
SILVER SIDE	C_NOEL	50	09/11/1995
SILVER SIDE	LC50	>100	09/11/1995
MYSID SHRIMP	A_NOEL	100	11/26/1995
MYSID SHRIMP	LC50	>100	11/26/1995
SEA URCHIN	C_NOEL	25	11/26/1995
SILVER SIDE	A_NOEL	100	11/26/1995
SILVER SIDE	C_NOEL	100	11/26/1995
SILVER SIDE	LC50	>100	11/26/1995
MYSID SHRIMP	A_NOEL	100	02/25/1996
MYSID SHRIMP	LC50	>100	02/25/1996
SEA URCHIN	C_NOEL	50	02/25/1996
SILVER SIDE	A_NOEL	100	02/25/1996
SILVER SIDE	C_NOEL	<6.25	02/25/1996
SILVER SIDE	LC50	>100	02/25/1996
MYSID SHRIMP	A_NOEL	100	06/02/1996
MYSID SHRIMP	LC50	>100	06/02/1996
SEA URCHIN	C_NOEL	25	06/02/1996
SILVER SIDE	A_NOEL	100	06/02/1996
SILVER SIDE	C_NOEL	50	06/02/1996
SILVER SIDE	LC50	>100	06/02/1996
MYSID SHRIMP	A_NOEL	100	08/25/1996
MYSID SHRIMP	LC50	>100	08/25/1996
SEA URCHIN	C_NOEL	50	08/25/1996
SILVER SIDE	A_NOEL	100	08/25/1996
SILVER SIDE	C_NOEL	12.5	08/25/1996
SILVER SIDE	LC50	>100	08/25/1996
MYSID SHRIMP	A_NOEL	100	11/17/1996
MYSID SHRIMP	LC50	>100	11/17/1996
SEA URCHIN	C_NOEL	12.5	11/17/1996
SILVER SIDE	A_NOEL	100	11/17/1996
SILVER SIDE	C_NOEL	100	11/17/1996
SILVER SIDE	LC50	>100	11/17/1996
MYSID SHRIMP	A_NOEL	100	02/23/1997
MYSID SHRIMP	LC50	>100	02/23/1997
SEA URCHIN	C_NOEL	6.0	02/23/1997
SILVER SIDE	A_NOEL	100	02/23/1997
SILVER SIDE	C_NOEL	100	02/23/1997
SILVER SIDE	LC50	>100	02/23/1997
MYSID SHRIMP	A_NOEL	100	05/18/1997

Species	Test	Test Result %	Sample Date
MYSID SHRIMP	LC50	>100	05/18/1997
SEA URCHIN	C_NOEL	50	05/18/1997
SILVER SIDE	A_NOEL	100	05/18/1997
SILVER SIDE	C_NOEL	100	05/18/1997
SILVER SIDE	LC50	>100	05/18/1997
MYSID SHRIMP	A_NOEL	100	09/14/1997
MYSID SHRIMP	LC50	>100	09/14/1997
SEA URCHIN	C_NOEL	12.5	09/14/1997
SILVER SIDE	A_NOEL	100	09/14/1997
SILVER SIDE	C_NOEL	25	09/14/1997
SILVER SIDE	LC50	>100	09/14/1997
MYSID SHRIMP	A_NOEL	100	11/16/1997
MYSID SHRIMP	LC50	>100	11/16/1997
SEA URCHIN	C_NOEL	25	11/16/1997
SILVER SIDE	A_NOEL	100	11/16/1997
SILVER SIDE	C_NOEL	100	11/16/1997
SILVER SIDE	LC50	>100	11/16/1997
MYSID SHRIMP	A_NOEL	100	06/21/1998
MYSID SHRIMP	LC50	>100	06/21/1998
SEA URCHIN	C_NOEL	100	06/21/1998
SILVER SIDE	A_NOEL	100	06/21/1998
SILVER SIDE	C_NOEL	100	06/21/1998
SILVER SIDE	LC50	>100	06/21/1998
MYSID SHRIMP	A_NOEL	100	10/04/1998
MYSID SHRIMP	LC50	>100	10/04/1998
SEA URCHIN	C_NOEL	12.5	10/04/1998
SILVER SIDE	A_NOEL	100	10/04/1998
SILVER SIDE	C_NOEL	50	10/04/1998
SILVER SIDE	LC50	>100	10/04/1998
MYSID SHRIMP	A_NOEL	68.75	11/30/1998
MYSID SHRIMP	LC50	>100	11/30/1998
SEA URCHIN	C_NOEL	14	11/30/1998
SILVER SIDE	A_NOEL	100	11/30/1998
SILVER SIDE	C_NOEL	100	11/30/1998
SILVER SIDE	LC50	>100	11/30/1998
MYSID SHRIMP	A_NOEL	100	03/07/1999
MYSID SHRIMP	LC50	>100	03/07/1999
SEA URCHIN	C_NOEL	100	03/07/1999
SILVER SIDE	A_NOEL	50	03/07/1999
SILVER SIDE	C_NOEL	50	03/07/1999
SILVER SIDE	LC50	>100	03/07/1999
MYSID SHRIMP	A_NOEL	100	06/20/1999

Species	Test	Test Result %	Sample Date
MYSID SHRIMP	LC50	>100	06/20/1999
SEA URCHIN	C_NOEL	100	06/20/1999
SILVER SIDE	A_NOEL	100	06/20/1999
SILVER SIDE	C_NOEL	50	06/20/1999
SILVER SIDE	LC50	>100	06/20/1999
MYSID SHRIMP	A_NOEL	100	10/03/1999
MYSID SHRIMP	LC50	>100	10/03/1999
SEA URCHIN	C_NOEL	100	10/03/1999
SILVER SIDE	A_NOEL	100	10/03/1999
SILVER SIDE	C_NOEL	100	10/03/1999
SILVER SIDE	LC50	>100	10/03/1999
MYSID SHRIMP	LC50	>100	12/05/1999
SEA URCHIN	C_NOEL	50	12/05/1999
SILVER SIDE	A_NOEL	66.4	12/05/1999
SILVER SIDE	C_NOEL	25	12/05/1999
SILVER SIDE	LC50	>100	12/05/1999
MYSID SHRIMP	A_NOEL	100	03/19/2000
MYSID SHRIMP	LC50	>100	03/19/2000
SILVER SIDE	A_NOEL	100	03/19/2000
SILVER SIDE	C_NOEL	100	03/19/2000
SILVER SIDE	LC50	>100	03/19/2000
MYSID SHRIMP	A_NOEL	78.1	06/11/2000
MYSID SHRIMP	LC50	>100	06/11/2000
SILVER SIDE	A_NOEL	100	06/11/2000
SILVER SIDE	C_NOEL	100	06/11/2000
SILVER SIDE	LC50	>100	06/11/2000
MYSID SHRIMP	A_NOEL	100	09/24/2000
MYSID SHRIMP	LC50	>100	09/24/2000
SEA URCHIN	C_NOEL	50	09/24/2000
SILVER SIDE	A_NOEL	100	09/24/2000
SILVER SIDE	C_NOEL	100	09/24/2000
SILVER SIDE	LC50	>100	09/24/2000
MYSID SHRIMP	A_NOEL	100	12/10/2000
MYSID SHRIMP	LC50	>100	12/10/2000
SEA URCHIN	C_NOEL	100	12/10/2000
SILVER SIDE	A_NOEL	100	12/10/2000
SILVER SIDE	C_NOEL	100	12/10/2000
SILVER SIDE	LC50	>100	12/10/2000
MYSID SHRIMP	A_NOEL	100	05/23/2001
MYSID SHRIMP	LC50	>100	05/23/2001
SEA URCHIN	C_NOEL	100	05/23/2001
SILVER SIDE	A_NOEL	100	05/23/2001

Species	Test	Test Result %	Sample Date
SILVER SIDE	C_NOEL	50	05/23/2001
SILVER SIDE	LC50	>100	05/23/2001
MYSID SHRIMP	A_NOEL	100	03/24/2002
MYSID SHRIMP	LC50	>100	03/24/2002
SEA URCHIN	C_NOEL	100	03/24/2002
SILVER SIDE	A_NOEL	100	03/24/2002
SILVER SIDE	C_NOEL	100	03/24/2002
SILVER SIDE	LC50	>100	03/24/2002
MYSID SHRIMP	A_NOEL	100	05/18/2003
MYSID SHRIMP	LC50	>100	05/18/2003
SEA URCHIN	C_NOEL	50	05/18/2003
SILVER SIDE	A_NOEL	100	05/18/2003
SILVER SIDE	C_NOEL	100	05/18/2003
SILVER SIDE	LC50	>100	05/18/2003
MYSID SHRIMP	A_NOEL	>100	04/25/2004
MYSID SHRIMP	LC50	>100	04/25/2004
SEA URCHIN	C_NOEL	14.3	04/25/2004
SILVER SIDE	A_NOEL	>100	04/25/2004
SILVER SIDE	C_NOEL	100	04/25/2004
SILVER SIDE	LC50	>100	04/25/2004
MYSID SHRIMP	A_NOEL	>100	04/17/2005
MYSID SHRIMP	LC50	>100	04/17/2005
SEA URCHIN	C_NOEL	<5.7	04/17/2005
SILVER SIDE	A_NOEL	>100	04/17/2005
SILVER SIDE	C_NOEL	100	04/17/2005
SILVER SIDE	LC50	>100	04/17/2005
MYSID SHRIMP	A_NOEL	>100	08/28/2005
MYSID SHRIMP	LC50	>100	08/28/2005
SEA URCHIN	C_NOEL	50	08/28/2005
SILVER SIDE	A_NOEL	>100	08/28/2005
SILVER SIDE	C_NOEL	100	08/28/2005
SILVER SIDE	LC50	>100	08/28/2005
MYSID SHRIMP	A_NOEL	>100	11/13/2005
MYSID SHRIMP	LC50	>100	11/13/2005
SEA URCHIN	C_NOEL	5.7	11/13/2005

ATTACHMENT D

Sample Date: 03/18/2001
Plant flows provided

otal Tests:	132	mon.(MGD)=	3.140
issing Compounds:	1	day(MGD)=	3.000
ests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 03/24/2002
Plant flows provided

otal Tests:	133	mon.(MGD)=	2.280
issing Compounds:	1	day(MGD)=	1.950
ests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 05/19/2003
Plant flows provided

otal Tests:	133	mon.(MGD)=	2.070
issing Compounds:	0	day(MGD)=	1.760
ests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 04/25/2004
Plant flows provided

otal Tests:	132	mon.(MGD)=	2.450
issing Compounds:	1	day(MGD)=	4.200
ests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 04/17/2005
Plant flows provided

otal Tests:	137	mon.(MGD)=	4.000
issing Compounds:	1	day(MGD)=	2.060
ests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 08/28/2005
Plant flows provided

Total Tests:	132	mon.(MGD)=	1.480
Missing Compounds:	1	day(MGD)=	1.590
Tests With High DL:	0		

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 11/14/2005
Plant flows not provided

Total Tests:	133
Missing Compounds:	0
Tests With High DL:	0

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

PP Data for "Hits" Only

ACO
ACO RIVER

MMONIA
> MDL

	Conc, ug/l	MDL	Sample Date	Date Entered
	8.000000	NS	04/17/2005	06/20/2005
	720.000000	NS	09/26/2003	01/07/2004
	2500.00000	NS	03/24/2002	06/03/2002
	2900.00000	NS	09/27/2002	12/27/2002
	3700.00000	NS	04/25/2004	06/28/2004
	3900.00000	NS	03/18/2001	05/22/2001
	7900.00000	NS	11/14/2005	01/17/2006
	8000.00000	NS	04/17/2005	02/14/2006
	8000.00000	NS	08/28/2005	11/03/2005
	8500.00000	NS	05/19/2003	07/10/2003
	15000.0000	NS	06/09/2004	07/19/2004
	16000.0000	NS	09/04/2001	10/25/2001

RSENIC
DL = 5 ug/l

	Conc, ug/l	MDL	Sample Date	Date Entered
	1.000000	OK	04/25/2004	06/28/2004
	1.000000	OK	11/14/2005	01/17/2006
	3.000000	OK	03/24/2002	06/03/2002
	3.000000	OK	08/28/2005	11/03/2005
<	1.000000	OK	03/18/2001	05/22/2001
<	1.000000	OK	05/19/2003	07/10/2003
<	1.000000	OK	04/17/2005	06/20/2005
<	5.000000	OK	09/04/2001	10/25/2001

HLOROFORM
DL = 5.0 ug/l

	Conc, ug/l	MDL	Sample Date	Date Entered
	1.000000	OK	03/18/2001	05/22/2001
	1.000000	OK	08/28/2005	11/03/2005
	1.000000	OK	03/24/2002	06/03/2002
	2.000000	OK	04/17/2005	06/20/2005
	2.000000	OK	11/14/2005	01/17/2006
<	2.000000	OK	04/25/2004	06/28/2004
<	2.000000	OK	05/19/2003	07/10/2003

OPPER
DL = 3 ug/l

	Conc, ug/l	MDL	Sample Date	Date Entered
	5.000000	OK	04/25/2004	06/28/2004
	6.000000	OK	05/19/2003	07/10/2003
	6.000000	OK	03/24/2002	06/03/2002
	6.000000	OK	04/17/2005	06/20/2005
	8.000000	OK	01/14/2004	02/19/2004
	9.000000	OK	11/14/2005	01/17/2006
	12.000000	OK	03/18/2001	05/22/2001
	13.000000	OK	08/28/2005	11/03/2005
	25.000000	OK	09/27/2002	12/27/2002
<	2.000000	OK	09/04/2001	10/25/2001